surface substantially independent from a mass transport of the signal-generating molecule to an interface layer between the chamber solution and the measuring surface; and

an analyser unit coupled to the sample chamber.

33 ~~34~~. (Added) The flow-through shear analyser of claim 33, wherein the sample chamber is disposed within a sample chamber block, and wherein the supply line further comprises a closable injection opening.

34 ~~35~~. (Added) The flow-through shear analyser of claim 34 wherein the analyser unit comprises at least one of a radiation source, a radiation conduit, and a radiation analyser.

35 ~~36~~. (Added) The flow-through shear analyser of claim 35 further comprising a first pump fluidly coupled to the supply line, wherein the first pump supplies the chamber solution to the chamber, and further comprising a second pump fluidly coupled to a removal line that is fluidly coupled to the sample chamber.

36 ~~37~~. (Added) The flow-through shear analyser of claim 35 wherein the radiation source comprises a light source that produces a monochromatic light beam, and wherein the radiation conduit comprises an optical prism, and wherein the radiation analyser comprises an emission monochrometer.

A2 37 ~~38~~. (Added) The flow-through shear analyser of claim 37 wherein the radiation conduit and the light source are configured such that a light beam from the light source impinges upon an interface layer between one of the plurality of walls and the chamber solution at an angle larger than a critical angle, and wherein a fluorescence light generated at the interface layer is directed via an optical system to the radiation analyser.

38 ~~39~~. (Added) The flow-through shear analyser of claim 33, wherein the chamber solution comprises at least one of a hydrophilic liquid and a hydrophobic liquid.

39 ~~40~~. (Added) The flow-through shear analyser of claim 33, wherein the fluid that is immiscible with the chamber solution is selected from the group consisting of a gas

and a liquid.

40 ~~41~~. (Added) The flow-through shear analyser of claim 33, wherein the chamber solution comprises a buffer, and wherein the fluid that is immiscible with the chamber solution comprises a gas.

41 ~~42~~. (Added) The flow-through shear analyser of claim 33, wherein the sample chamber comprises a radiation-permeable flow-through cuvette that has a rectangular or circular cross section perpendicular to a flow direction of the chamber solution.

42 ~~43~~. (Added) The flow-through shear analyser of claim 33, wherein the at least one radiation permeable wall comprises quartz glass.

43 ~~44~~. (Added) The flow-through shear analyser of claim 33, wherein the at least one radiation permeable wall further comprises a coating that promotes specific binding of the signal-generating molecule to the radiation permeable wall.

44 ~~45~~. (Added) The flow-through shear analyser of claim 33, wherein the signal-generating molecule comprises a biologically active molecule.

45 ~~46~~. (Added) The flow-through shear analyser of claim 45, wherein the biologically active molecule comprises a protein, and wherein the biologically active molecule reacts with a ligand.

A2

46 ~~47~~. (Added) The flow-through shear analyser of claim 33, wherein the sample chamber is cylindrical, and wherein a light-permeable rotor is rotatably disposed within the sample chamber, and wherein the sample chamber is closed on one end by a light-permeable quartz plate, and wherein the flow-through shear analyser further comprises a motor that actuates the rotor.

47 ~~48~~. (Added) The flow-through shear analyser of claim 47 further comprising a removal line, wherein the rotor has a rotational axis, and wherein the supply line and the removal line are arranged essentially diametrical to the rotational axis.

48 ~~49~~. (Added) The flow-through shear analyser of claim 48 wherein the supply line and the removal line are at least partially disposed within the quartz plate.

49 ~~50~~. (Added) The flow-through shear analyser of claim 47 wherein the supply line further comprises a closable injection opening.

50 ~~51~~. (Added) The flow-through shear analyser of claim 48 wherein the rotor has a cone shaped surface, and wherein the rotational axis and a tangent to the cone-shaped surface form an angle between 58 degrees and 89.9 degrees.

51 ~~52~~. (Added) A method of determining thickness of an ultra-thin liquid layer, comprising:
generating an ultra-thin liquid layer on a measurement surface by feeding an immiscible fluid into a liquid flow comprising a strongly fluorescing fluorophor;
wherein the fluorophor does not absorb to the measurement surface on an interface formed between the ultra-thin liquid layer and the measurement surface;
generating an evanescent light wave that radiates through the ultra-thin liquid layer, thereby generating a measurement signal in the immiscible fluid.

52 ~~53~~. (Added) A method of analyzing a component in a liquid, comprising:
providing a sample analysis chamber comprising a solid phase, and a supply line fluidly coupled to the sample analysis chamber;
feeding the liquid in a liquid flow through the sample analysis chamber, wherein the liquid flow is subdivided in the supply line by a fluid into a plurality of volume segments prior to entry of the liquid flow into the sample analysis chamber, wherein the fluid is immiscible with the liquid; and
analyzing at least some of the volume segments for the component that is enriched in at least one of an interface layer between the solid phase and the liquid and an interface layer between the liquid and the fluid.

A2

53 ~~54~~. (Added) A method of analyzing a component in a liquid, comprising:
providing a sample analysis chamber comprising a solid phase, and a supply line fluidly coupled to the sample analysis chamber;
feeding the liquid in a liquid flow through the sample analysis chamber, wherein the liquid flow is subdivided in the supply line by a fluid into a plurality of volume segments prior to entry of the liquid flow into the sample analysis chamber, wherein the fluid is immiscible with the liquid; and

analyzing at least some of the volume segments for the component that is enriched in the fluid.

54 ~~55~~. (Added) The method of 53, wherein the fluid comprises at least one of a gas and an immiscible liquid.

55 ~~56~~. (Added) The method of claim 53 further comprising providing a two-way valve fluidly coupled to the supply line, wherein the two-way valve receives the liquid and the fluid in a liquid feed line and a fluid feed line, respectively, and wherein the two-way valve is intermittently switched between the liquid feed line and the fluid feed line during the step of analyzing.

A2 56 ~~57~~. (Added) The method of claim 53 wherein the liquid flow is stopped prior to the step of analyzing.

57 ~~58~~. (Added) The method of claim 53 further comprising reversing the liquid flow.

58 ~~59~~. (Added) The method of claim 53 wherein the liquid flow has a temperature, and wherein the temperature is changed in a stepwise fashion.

59 ~~60~~. (Added) A method of determination of an adsorption rate constant, a desorption rate constant, or a reaction rate constant of a signal generating molecule, comprising:

providing a flow-through shear analyser according to claim 32 wherein the analyser unit comprises an emission monochrometer and an optical prism, and wherein the emission monochrometer and the optical prism are optically coupled to the sample chamber;

directing a flow of a buffer solution through the sample chamber, and introducing a flow of a sample solution into the sample chamber;

irradiating the optical prism with monochromatic light at a critical angle of about 70 degrees; and

A2 measuring a light intensity of a fluorescent light that is generated at an interface layer between the radiation permeable wall and the sample chamber, wherein the fluorescence light is emitted essentially perpendicular to the radiation permeable wall and enters essentially perpendicular into the emission monochrometer.

60 ~~61~~. (Added) The method of claim 60, further comprising introducing a fluid into the supply line, wherein the fluid is immiscible with the sample solution, and wherein the fluid has a volume of no more than 1000μl.

61 ~~62~~. (Added) The method of claim 60, wherein the fluid is introduced in form of an air bubble.